Muslim Family Methods on the Negative Impact of Digital Technology Advances in the Era of Industry 4.0 on Children Aged 4-7 in Surakarta

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ABSTRACT

The impact of technology on people's lives is enormous, because of the impact of social change that is felt by the whole layer of society, both in the city and in the countryside, not only among adults but also among early children. If the use of technology is inappropriate, then it will bring problems to the lives of the community and in particular make the old people. The study aims to learn about the Muslim family methods regarding the impact of technological advances in the era of Industry 4.0 on early childhood in Surakarta. The method used in this research is qualitative descriptive which includes data reduction, data display, and conclusion. The study finds that the methods applied by the majority of 10 Muslim families regarding the negative impact of digital technology advances in the era of Industry 4.0 on children aged 4-7 in Surakarta, are preventive, methods of surveillance, freeing children to play outdoors with peers, selective in choosing appropriate applications for children, being a good example for kids, and giving time limits for children to use technology. In conclusion, this research illuminates the proactive steps taken by Muslim families in Surakarta to navigate the challenges posed by technological advancements. By adopting a range of preventive measures and promoting a balanced approach, these families strive to ensure a positive impact on the lives of their early childhood members amidst the ever-evolving landscape of Industry 4.0.

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1. Introduction

The changes of the times are happening very quickly in Indonesia, as can be seen from the increasingly advanced technological advances in all areas of life. The use of technology has become a necessity because it makes life easier for humanity, especially the younger generation known as the digital native. Today, gadgets are used by adults, teenagers and even children who should not have
been able to use them, this is because gadget has a variety of features and applications that are interesting, varied, interactive, and flexible so which adds to the appeal [1]. Gadgets were once used by the upper-middle-class economy but nowadays it is used by all categories of people including children [2]. According to the Indonesian Children’s Medical Association [3] “The younger generation known as the digital native generation is the name of the generation that today is familiar with digital media and electronic media from birth”. According to the results of a survey conducted by the Ministry of Communications and Information, the number of Internet users in Indonesia is mostly the young generation. Kominfo explains that the number of Internet users is 213.63 million people by 2022. Of that number, 80% are children and adolescents [4].

Technology has a huge influence on the lives of younger generations, it can even change their personalities, mindsets, and behaviors. Many children are familiar with various forms of devices such as computers or laptops, tablet PCs, as well as cell phones or smartphones [5]. Hasanah & Kumalasari [6] tell that the negative impact of gadgets greatly affects the mental health of children, so that the social life of children becomes less good, besides children can experience sleep disorders, obesity, aggressive, chubby, addictive, and so on. This is in line with the opinion of Mustafaoğlu et al. [7], that excessive use of gadgets poses a variety of health risks, including developmental problems, musculoskeletal problems, lack of physical activity, obesity, and inadequate sleep quality. Staring at electronic screen continuously for a long time causes distress [8] and too much gadget use can also affect long-term vision problems [9].

The other negative impact of the use of technology is as demonstrated by Divan et al. [10] which states that excessive exposure to gadgets in children has a negative impact on child development, one of which affects brain development, brain function can decrease due to radiation exposure from gadgets so that it can lead to behavioral problems in children. These behavioral problems are difficult for a child to emulate with non-technological toys, can impede a child's ability to speak, and cause social behavior disorders such as children prefer to stay at home rather than play with peers. Excessive use of gadget has numerous negative effects on children, among them are stress, addiction, depression, and emotional problem, cognitive and moral development disorder, furthermore, it is very dangerous for children who do not pay attention to the people around them because they are busy with their gadgets [11]-[12].

Another longitudinal study found that children who watched television more than 3 hours a day caused behavioral problems such as hyperactivity, uncontrolled emotions, and problems in socializing at the age of 7 compared to children watching television less than 1 hour a day [13]. Using gadgets more than intended or even just using gadget interfere the children lifestyle, sleeping [14]. Gottschalk [15] also argues that technology has a negative impact in everyday life especially on children who have easy access to technology at home, resulting in children becoming passive individuals and reluctant to socialize. Findings relating to harmful interactions and consequences and suggest that the usage of children's technologies may be connected to material risks (e.g., viewing images unsuitable for children), communication risks from strangers, and action risks such as online aggression [16].

Parents play an important role in shaping the child's personality until the child grows into a responsible adult [17]. Sunarto [18] argues that parents are the most important component in the early stages of children's education. Therefore, a child's personality development is largely determined by what is given from parents. As regulated by Act No. 35 of 2014 [19] on the protection of children, it reads: “Parents have a duty to nurture, build, educate, protect, nurture and exploit the potential of children according to their abilities, talents, and interests.” According to the law, it is very clear that parents are the primary educators in their families. For that, parents have a duty to protect their children from all kinds of disturbances, including the negative impact of technological advances. The children of the 4.0 industrial age have been familiar with technology from an early age, such as information and communication technology, which consists of several types, namely visual, audio-visual, and printed media [20].

Technological advances have a profound impact on children's lives, so the role of parents is essential in supporting children in the use of technology in everyday life. Parents can pursue technological advances in educating their children by monitoring and giving instructions on how to
use technology properly and correctly, therefore parents must have sufficient knowledge related to the
management of the use of technology to their children so that the usage of technology has a positive
impact on their children [21]. This view is in line with the findings of Hammer et al. [22] that stated
that parents at home have a role in supporting the use of technology which is an important start in
increasing the positive impact of technology on children. In addition to the role of parents in general,
it turns out that parents from Muslim families have their own ways of minimizing the negative impact
of technological advances on their children as demonstrated by Zahrotunissa [23] that Muslim family
education focuses on strengthening Islamic religious identity, growing awareness of digital, and being
a good and positive example to children. Muslim family education in the digital age more offers broad
access to religious knowledge, fosters a deeper understanding of Islam, and encourages children to
engage in religious activities so that children can navigate the digital world better while in Islamic
values.

The Muslim family tip in dealing with the negative impact of technology other than the above is
that Muslim parents strive to be more digital intelligent, introduce concepts of morality to their
children, and build moral values by controlling their children's interaction with digital things that smell
[24]. Muslim parents also endeavor to educate acts by giving Islamic counsel, attention, and educating
with tarqhib and tarhib [25]. This is in line with a study conducted by Astuti et al. [26] which states
that in order to prevent the negative impact of the use of technology on children, Muslim families
must instill Islamic educational values that include the aspects of akidah, worship, and morality in
children.

Based on the background that has been presented, the researchers are interested in conducting
research related to the use of technology in early childhood under the title “Muslim family methods
on the impact of digital technological advances in the era of Industry 4.0 on early children in
Surakarta”. The researchers used Muslim family subjects with the aim of digging deeper related
concepts of Islamic concepts in the application of everyday life.

2. Method

The method used in this research is qualitative descriptive method. The aim of this study is to
provide an overview of the facts on the ground objectively based on the results of observations,
interviews and documentation of 10 Muslim parents with children aged 4-7 years in Surakarta related
to their family methods regarding the impact of digital technological advances in the era of Industry
4.0. This research was carried out by prioritizing direct observation of the field, then carrying out the
data collection process, processing the data, and analyzing the data in depth.

Researchers used descriptive research because researchers wanted to see Muslim families’
methods of responding to the impact of technological advances on children. Meanwhile, the data
collection method in this research used semi-structured interview techniques. A semi-structured
interview is when the researcher asks several questions more freely and openly, without being bound
by a previously prepared set of questions [27].

The observation sites in this research were in Surakarta City, specifically Serengan subdistrict,
Laweyan subdistrict and Banjarsari subdistrict. The data analysis used is inductive, to analyze
qualitative research data through 3 stages, namely: 1) data reduction, 2) data presentation, 3) data
verification.

3. Results and Discussion

Based on the results of interviews with 10 respondents, the following results were obtained:

3.1. Interviews with Mrs. S.

Mrs. S is a housewife with two children, the first child is 4 years old, while the second child is
1.5 years old. Based upon the interviews conducted, the method used in minimizing the negative
impact of technological advances on the development of early childhood is by preventive methods,
which means it does not introduce early conscious gadgets. Mrs. S also does not have a television at home, then the child constantly watching television, it is better to play with her mother and father. The cell phone that Mrs. S owns is used only to call people when they need it, and not to play the cell phone when she's around her child. Instead of playing gadgets, Umi's mother preferred to bring her children to read the Quran together in the afternoon until the evening, after which the children learned school subjects. The results of this interview are in line with the results of research conducted by Aryati [28] and Sundus that preventive methods are one of the methods considered effective in minimizing the negative impact of digital technology use by children, so the use of gadget would be better if only when necessary with a certain time limit [29].

3.2. Interviews with Mrs. U

Mrs. U is a housewife with two children, the first child is 7 years old, while the second child is 4 months old. Based on an interview with Mrs. U, the method used to minimize the negative impact of technological advances on early childhood development is by limiting the use of gadgets and more using the gadget to practice reading the Quran. The gadget was only given one hour a day to her first child, it was under parental supervision and for her second child, who was four months old, Mrs. chose never to give her screen time. In line with Mrs. S, that Mrs. U also chose not to have television at home because of fear that her child will watch television all the time and become passive in socializing and forget to study at home. The results of an interview with Mrs. U are in line with the results of a study conducted by Putri [30], which stated that the way to minimize the impact of using gadgets is by limiting the use of gadgets and giving time limits when children use gadgets.

3.3. Interviews with Mrs. R.

Mrs. R is a housewife with a child. Based on an interview with Mrs. R, the method used in minimizing the negative impact of technological advances on children's development is by providing educational toys to children. So, Mrs. R home has a place made specifically for children to play, there is also prepared to share toys that can train various aspects of children’s development ranging from religious and moral values, cognitive, language, motor physical, and art. While the child plays, Mrs. R sets herself up to do the same when she isn't busy, even when she's busy doing her homework, she keeps watching the child from a distance and as often as she can. With this Mrs. R wants her son not to know the gadget further, the gadget is only used to call relatives or friends and also to learn to read the Quran and listen to Islamic songs. The results of an interview with Mrs. R, are in line with the results of a study conducted by Nugroho et al. [31] which states that monitoring children in the use of gadgets is essential in order to reduce the impact of the negative impact of gadget use. This in because parents play an important role in influencing children's interactions with digital devices [32].

3.4. Interviews with Mrs. T.

Mrs. T is a housewife with three children, the first child is eight years old, the second child is five years old, and the third child is three years old. Based on the interview with Mrs. T, the method used to minimize the negative impact of technological progress on child development is by freeing the child to play outside with his peers. So when Mrs. T’s first daughter is playing with her friends, her sisters are also asked to play with her brother, or otherwise not, her brothers can also be friends with her own peers, this method is considered very effective because socializing with her peers makes the children un-addictive to gadgets, and many benefits can be obtained by the child, i.e. the child becomes independent, joyful, and the ability to socialize becomes better. The results of an interview with Mrs. T are in line with the results of a study conducted by Amalia & Diana [33] which stated that asking children to socialize with peers and their surroundings is one of the parents' strategies in addressing the impact of gadget use on early childhood social development.

3.5. Interviews with Mrs. L.

Mrs. L is a single mother with three children. The first was nine years old and the second and third were five years old. Mrs. L is also a working mother, so communication with her son is very limited, that is, in the afternoon when she comes home from work. When working, Mrs. L children
will be cared for by her grandmother after school. Mrs. L’s method of minimizing the negative impact of technological advances is to limit the giving of gadgets to her child, which is in line with the opinion of some other respondents in this study. Although her mother is a working mother, she is also committed to accompanying her child when using the gadget, so anything she does or watches through the gadget should be under her supervision, because there are many negative things that can affect her child from the advances of technology, for example when her child sees unpleasant content from social media. Children are also taught strong Islamic religions so that they are not easily influenced by negative content on social media. The results of an interview with Mrs. Lestari are in line with the results of a study conducted by Wahyudi & Sukmasari [34] which states that parental supervision is crucial in efforts to prevent the negative influence of technology on children. This research is in line with the recommendations of the Canadian Pediatric Society with respect to health and the growth of children in the digital era which are reducing screen time, reducing the risks associated with screen time, and being mindful [35].

3.6. Interviews with Mrs. A.

Mrs. T has a child, based on an interview with the mom of Mrs. A obtained information that her son was allowed to watch TV and HP since the age of two and always allowed her child to use the digital device when her child asked for it. In fact, Mrs. A is very concerned about the impact of overuse of digital devices on her child because the child becomes difficult in responding to people around when they are asked to communicate and are all alive with the gadget, therefore the method considered effective by Mrs. A in minimizing the negative impact of technology is by a selective way in choosing applications that are accessible to the child and also multiply the child's activities outside the home so that the child does not use the gadget often. The results of the interview with Mrs. A are in line with the results of research carried out by Novitasari [36] which states that the way that parents can do in supporting the intensity of the use of gadgets in children is selectively in selecting appropriate and appropriate applications, inviting children to do positive things outside the home also includes strategies in minimizing the use gadget by children.

3.7. Interviews with Mrs. L.

Mrs. L has a five-year-old son who, based on an interview with her mother, was informed that her son has been given access to gadgets, tablets, or even television from the age of three to four hours a day. According to Mrs. L, the negative impact of technology is actually very worrying, as a child becomes forgotten about time in religious studies because of constantly playing gadgets, but Mrs. L took the positive side of using gadgets as an up-to-date learning medium. The method used by Mrs. L in minimizing the impact of technology is to be a role model for the child, because the child imitates what the people around him do, so she also begins to reduce the use of gadgets and multiply religious activities like teaching in the cottage every afternoon. The results of an interview with Mrs. L in line with the results of a research conducted by Fahrurrozi & Sutrisno [37] which states that being a role model or model for children is the right way to minimize the negative impact of the use of technology in the digital age.

3.8. Interviews with Mrs. H.

Mrs. H has a five-year-old child, based on an interview with her mother, she learned that her son has been given access to gadgets, television, and tablets since she was one year old. Mrs. H argues that digital technologies like gadgets have a lot of negative impacts such as the child becomes difficult to sleep and also the child gets slow in responding to conversations with others. Therefore, Mrs. H has a method of minimizing the impact of digital technology on the child by providing support when the child uses digital technology so that the child is always in the hands of the parents. The results of interviews with Mrs. H are in line with the results of research conducted by Tasya & Masyitoh [38], which stated that parental support to children is effective in preventing the negative impact of technology, with parental assistance has shown that they provide empathy, support and positive feelings to children.
3.9. Interviews with Mrs. U.

Mrs. U has a four-year-old son, based on the results of an interview with Mrs. U obtained information that she’s began to give access to gadgets and television to the child from the age of 2 because surrounded by the house of the mother, all children were given access to use the gadget and watch television. Mrs. U was very concerned about the negative impact of technology because the child became angry when not given the access to play the gadget, but the mother has not been able to discontinue the use of gadgets to children for reasons of a lot of homework, so the child remains calm when playing with his gadget, yet the mother still tried to apply the appropriate methods to minimize the impact of the gadget use by the son boss by encouraging the child to be active in socialization and always invite the children to play outside the house. The results of an interview with Mrs. U are in line with a study conducted by Sutriyatna [39], which shows that bringing children to play out of the house is one of the most effective methods of forgetting the gadget. This result in line with a study conducted by Samad and Haron [40] which shows that Parents have to provide positive activities for children, such as playing football or chess, drawing, colouring, reading books, playing the piano or sending them to play indoor activities.

3.10. Interviews with Mrs. W.

Mrs. W has a six-year-old son, based on an interview with Mrs. W, who was informed that the Mrs. W began to give the use of technologies such as gadgets and television when the child was two years old, this was done because Mrs. W was a working mother and gave her child to her aunt. In fact, Mrs. W assessed that the use of gadgets in children has a lot of negative impacts because children should play outside the house with their friends and also the impact of other use of digital technology is that it can make children suffer from eye pain when technology use is unrestricted as well as children can have severe sleep problems. Therefore Mrs. W has a number of methods that can be given to their children the negative impact of digital use can be minimized by giving time constraints, providing support and supervision to children when using digital technology. The results of an interview with Mrs. W are in line with the research conducted by Nurhidayah et al. [41] which shows that parents have a special role that can prevent children from becoming addicted to gadgets by providing appropriate support, supervision and communication.

4. Conclusion

Based on the results of research carried out by the researchers, it can be concluded that there are several methods applied by the majority of 10 Muslim families regarding the negative impact of digital technology advances in the era of Industry 4.0 on children aged 4-7 years in Surakarta, namely preventive methods, methods of surveillance, freeing children to play outside the house with peers, being a good example for children, inviting children to study more in the afternoon, using gadgets to teach and listen to Islamic songs and giving time limits for children to use technology. This research has limitations, is that the subjects were only taken in the city of Surakarta.

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References


